

What is claimed is:

1. An extension pipe arrangement for a vacuum cleaner for providing a sealed channel between a cleaner body and a suction brush, the extension pipe arrangement having a joint which permits extension pipes to bend relative to each other, the extension pipe arrangement comprising:

a first extension pipe;

a second extension pipe pivotably connected to the first extension pipe; and

a resilient locking member disposed adjacent the first extension pipe to selectively restrain pivotal movement of the first and the second extension pipes relative to each other,

wherein reciprocal movement of the resilient locking member permits release of the locking condition between the first and the second extension pipes so as to permit the extension pipes to pivot relative to each other.

2. The extension pipe arrangement as claimed in claim 1, wherein the first extension pipe further comprises:

a tubular body;

a cylindrical joint formed at one end of the body for providing a connection to the second extension pipe;

a locking receiver formed within the cylindrical joint to receive the resilient locking member; and

a locking recess formed on an outer circumference of the cylindrical joint for receiving a part of the resilient locking member when it is positioned for insertion into the locking recess.

3. The extension pipe arrangement as claimed in claim 2, wherein the second extension pipe comprises a joint part having a plurality of locking recesses with which the part of the resilient locking member may selectively engage, the joint part being connected to the joint housing to provide support at opposite sides of the cylindrical joint.

4. The extension pipe arrangement as claimed in claim 3, wherein the resilient locking member further comprises:

a locking member body shaped to correspond in form with the locking receiver and the part of the resilient locking member further comprising a locking protrusion formed on an outer circumference of the resilient locking member to permit selective insertion into and engagement with the plurality of locking recesses;

a sliding plate connected to the locking member body; and

an operation handle connected to the sliding plate.

5. The extension pipe arrangement as claimed in claim 4, wherein the joint part of the second extension pipe has at least one slot element allowing the operation handle to be exposed to the outside through a wall of the joint housing, while permitting reciprocating movement of the operation handle along the slot element.

6. The extension pipe arrangement as claimed in claim 5, wherein the slot element further comprises:

a first slot extending along a line parallel with the first extension pipe when the first and the second extension pipes are connected to each other in a straight line; and

a second slot extending along a line parallel with the first extension pipe when the first and the second extension pipes are in a bent relationship relative to each other.

7. The extension pipe arrangement as claimed in claim 3, wherein the locking recesses comprise:

a first locking recess for securing the first and the second extension pipes in a first position when the first and the second extension pipes are in the first position being connected in a straight line; and

a second locking recess for securing the first and the second extension pipes in a second position when the first and the second extension pipes in the second position are in a bent condition and having a predetermined angle therebetween.

8. The extension pipe arrangement as claimed in claim 7, wherein the first and the second locking recesses each has a chamfered surface adjacent an inner surface of the locking receiver facing the locking protrusion.

9. The extension pipe arrangement as claimed in claim 1, wherein the resilient locking member selectively restrains pivotal movement of the first and the second extension pipes relative to each other to a straight position and a bent angle position, the bent angle position producing an angle between the first and the second extension pipes that ranges essentially from 40° to 50°.

10. The extension pipe arrangement as claimed in claim 2, wherein the locking recess penetrates through a wall of the outer circumference of the cylindrical joint whereby extension of the locking protrusion into the locking recess causes the locking protrusion to extend through the wall.

11. An extension pipe arrangement for a vacuum cleaner for providing a sealed channel between a cleaner body and a suction brush, the extension pipe arrangement having a joint which permits extension pipes to bend relative to each other, the extension pipe arrangement comprising:

- a first extension pipe;

- a second extension pipe pivotably connected to the first extension pipe and having a plurality of locking recesses;

- a release handle covering a portion of the outer circumference of the first extension pipe;

- at least one resilient locking member having a locking protrusion extending therefrom for selectively engaging one of the plurality of locking recesses when the user effects a sliding movement of the release handle, the resilient locking member restraining pivotal movement of the first and the second extension pipes relative to each other when the locking protrusion is engaged within one of the locking recesses; and

- a joint cover connected adjacent one side of the second extension pipe and pivoting together with the second extension pipe to seal a connection portion of the first and the second extension pipe, the joint cover having the plurality of locking recesses for receiving the locking protrusion.

12. The extension pipe arrangement as claimed in claim 10, wherein the first extension pipe comprises:

a tubular body having a slide retention protrusion;

a cylindrical joint formed at one end of the tubular body providing for connection to the second extension pipe, the cylindrical joint having two laterally disposed sides;

locking member receivers formed in both laterally disposed sides of the cylindrical joint, each being configured to receive a resilient locking member; and

a recess formed in an inner circumference of each of the locking member receivers, the locking protrusion being capable of being inserted into the recess when the first extension pipe is appropriately positioned relative to the second extension pipe.

13. The extension pipe arrangement as claimed in claim 11, wherein each of the resilient locking members comprise:

a locking member body disposed within the cylindrical joint, the locking protrusion protruding from an outer surface of the locking member body; and

a sliding plate having one end connected to the locking member body and the other end connected to the release handle for reciprocal movement depending on the position of the release handle.

14. The extension pipe arrangement as claimed in claim 12, wherein a pair of resilient locking members are symmetrically disposed, one at each of the two sides of the cylindrical joint.

15. The extension pipe arrangement as claimed in claim 11, wherein the release handle includes a guide hole disposed to correspond to the position of the guide protrusion, and restraining the reciprocal movement of the release handle in a longitudinal direction along the first extension pipe.

16. The extension pipe arrangement as claimed in claim 12, wherein the locking recess penetrates through a wall of the outer circumference of the cylindrical joint whereby extension of the locking protrusion into the locking recess causes the locking protrusion to extend through the wall.